CLAIMS

1. A data transmission process with auto-synchronised correcting code, characterised in that:

a) at transmission:

i) the data to be transmitted being constituted by bits having a timing defined by a clock signal (H), synchronisation management signals are formed including:

- a symbol clock signal (HS) m times less fast than the clock signal (H) where m is an integer, m bits constituting an information symbol (S),

- a synchronisation signal (SS) designating the first symbol of the packet,

- a data acquisition interruption signal (ID) intervening every K symbols, where K is a pre-set integer,

ii) under the control of the data acquisition interruption signal (ID), before a first group of K symbols is inserted a header and, after said first group, is inserted a second group of R symbols constituting a correcting code corresponding to the K symbols of the first group, R being a pre-set integer dependent on the correcting code type used, the first and second groups of (R+K) symbols forming a packet, and the header a header specific to this packet,

iii) each packet is modulated and transmitted in an appropriate way with its header,

b) at the receive end:

i) the signal received is demodulated, and the bit clock signal (H) is extracted,

ii) from the demodulated signal, a header search process is implemented in the demodulated signals and,

when a header is detected, the header search process is inhibited, and the synchronisation control (SS) is generated designating the first packet signal;

iii) under the control of the symbol clock (HS) and symbol synchronisation (SS) signals, the received packet is processed, so as to correct any erroneous symbols of the first group by means of the correcting code of the second group, and the header search process is reactivated after each packet processing,

iv) from the corrected symbols the transmitted data is retrieved.

2. A process according to claim 1, wherein:

a) at transmission, modulation is effected by spread spectrum by means of pseudo-random sequences,

b) correlation with the pseudo-random sequences used at transmission.

3. A process according to claim 1, wherein the correcting code is a Reed-Solomon type code.

4. An auto-synchronised coder for implementing the process according to claim 1, characterised in that it includes:

i) means (65) for forming synchronisation management signals including:

- a symbol clock signal (HS) m times less fast than a clock signal (H) timing the data bits, where m is an integer, m bits constituting an information symbol (S),

- a symbol synchronisation signal (SS) locating the start of each symbol,

- every K symbols, where K is a pre-set integer,

ii) means (60, 64, 66, 67, 68) for inserting, under the control of the acquisition interruption signal (ID), before a first group of K symbols a packet header and, after said first group, a second group of R symbols constituting a correcting code assigned to the K symbols of the first group, R being a pre-set integer dependent on the correcting code type used, the first and second groups of (R+K) symbols forming a packet, and the header a header specific to this packet.:

5. An auto-synchronised decoder for implementing the process according to claim 1, characterised in that it includes:

i) means (72) for constituting, from a data packet, a clock signal (H), a symbol clock signal (HS) and a symbol synchronisation signal (SS);

ii) means (71, 73, 74, 75) for implementing a header search process in the demodulated packet and, when a header is detected, for inhibiting the header search and for, under the control of the symbol clock (HS) and the symbol synchronisation signals (SS), processing the packet received and for correcting any erroneous symbols of the first group by means of the correcting code of the second group and, for reactivating the header search process after each packet processing.

6. A transmitter for implementing the process according to claim 1, including a transmission module (95) able to modulate the data and to spread the spectrum of this data by a pseudo-random sequence, characterised in that it additionally includes, before

said transmission module, an auto-synchronised coder (92) according to claim 4.

7. A receiver for implementing the process according to claim 1, including a receive module (102) able to demodulate the data and to de-spread the spectrum of this data by a pseudo-random sequence, characterised in that it additionally includes, after said receive module, an auto-synchronised decoder (100) according to claim 5.